

WEATHER PROTECTED MODULAR MOTOR ENCLOSURE

Abstract

An air-cooled weather-protected motor (10) configured for vertical-shaft applications, such as mounting above an outdoor, vertical-shafted pump (P) for pumping fluid (e.g., water, oil, etc.) through a pipeline (L), is disclosed. The illustrated motor (10) broadly includes a stator (12), a shafted rotor assembly (14) rotatably supported relative to the stator (12), and a vented protective motor enclosure (16) enclosing the stator (12) and the rotor assembly (14). The enclosure (16) includes a primary motor housing (18) and a pair of filtration boxes (20) and (22) removably coupled to either side of the housing (18) to guard air intake through the housing (18) to the stator (12) and the rotor assembly (14). The improved motor enclosure (16) provides an inventive coupling mechanism that enables the modular filtration housings (20,22) to be quickly and easily secured to the primary motor housing (18) to protect the air intake openings (68,70) from weather and other undesired debris. The housings (20,22) comply with the NEMA standards for a weather-protected Type II motor and thus enable

a weather-protected Type I motor to be quickly and easily converted to a Type II motor. When assembled on the motor (10) according to a preferred embodiment, the pair of filtration housings (20,22) provide optimal and uniform cooling of the motor (10) and enable a symmetrical, balanced motor (10) that can be tested on a horizontal dynamometer with the housings (20,22) attached.